WHAT IS CLAIMED IS:

1. A device for thermally cycling a sample, comprising:

at least one heating element;

a disc configured to receive samples; and

a mechanism configured to rotate the disc,

wherein rotation of the disc induces a turbulent airflow between at least a portion of the disc and at least a portion of the heating element.

2. The device according to claim 1, wherein the turbulent airflow is induced by a turbulence inducing area on the disc.

3. The device according to claim 2, wherein the turbulence inducing area includes at least one of slots, pegs, vanes, staggered vanes, and projections.

4. The device according to claim 1, wherein the turbulent airflow is induced by a turbulence inducing area on the heating element.

5. The device according to claim 4, wherein the turbulence inducing area includes at least one of slots, pegs, vanes, staggered vanes, and projections.

6. The device according to claim 1, further comprising excitation optics and detection optics to detect fluorescent light emitted by at least one label in the sample.

7. The device according to claim 1, further comprising a feedback system to control the heating element and provide for substantially uniform heat distribution to at least one sample chamber located on the disc.

8. A device for thermally cycling a sample, comprising:

at least one heating element;

a disc configured to receive samples;

an air gap between at least a portion of the disc and at least a portion of the heating element; and

a mechanism configured to rotate the disc,

wherein rotation of the disc induces a turbulent airflow within the air gap.

9. A device for thermally cycling a sample, comprising:

at least one heating element;

a first mechanism configured to receive a disc wherein the disc is configured to receive samples;

an air gap between the disc and the heating element when the disc is included in the first mechanism; and

a second mechanism configured to rotate the disc,

wherein rotation of the disc induces a turbulent airflow within the air gap.

10. A disc for thermally cycling, comprising:

at least one loading port configured to receive samples;

a plurality of sample chambers;

a plurality of channels to route the samples to the sample chambers; and

at least one turbulence inducing area,

wherein rotation of the disc induces a turbulent airflow.

11. The disc of claim 10, wherein the turbulence inducing area includes at least one of slots, pegs, vanes, staggered vanes, and projections.

12. The disc of claim 10, wherein at least a portion of the samples are routed into the sample chambers by the influence of a centrifugal force.

13. A method of thermally cycling, comprising:

at least one of introducing and removing heat with a heating element; and

rotating a disc to induce a turbulent airflow,

wherein the disc is configured to receive samples; and

wherein there is an air gap between the disc and the heating element.

14. The method of thermally cycling according to claim 13, further comprising providing substantial thermal uniformity to at least one sample chamber located on the disc.

15. The method of thermally cycling according to claim 13, further comprising exciting a label in at least one sample chamber located on the disc.

16. The method of thermally cycling according to claim 15, further comprising detecting light from the label.

17. The method of thermally cycling according to claim 13, further comprising positioning the disc in a device for thermal cycling.

18. The method of thermally cycling according to claim 17, wherein positioning the disc comprises providing access to the interior of the device for thermal cycling.

19. The method of thermally cycling according to claim 18, providing access comprises lifting a lid.

20. The method of thermally cycling according to claim 18, providing access comprises loading a tray.